

THE
CITIZEN'S APPRENTICE

AN ASSISTANT. 529.9.21
12

Being an easy Introduction to Arithmetic.

ON A NEW PLAN.

Containing Several Hundred Examples regularly set in the first Principal Rules; Approval Tables, & every requisite Direction for each, with ruled Lines, & blank Spaces in the Examples to be filled up at the discretion of the Teacher, according to the Capacity of the Learner.

—DESIGNED—

For the Use of Gentlemen's & Ladies' Schools, or Private Persons, & recommended by several Eminent Masters.

By Robert Saunders.

London.

Printed for the Author.

by Fry & Cudman, Upper-Moorfields, and Sold by M. Sudlow, Engraver, 191, Strand. 1785.

529.9.21
38



THE
PREFACE DEDICATORY.

TO

MASTERS of ACADEMIES, SCHOOLS, and TEACHERS,
In GREAT-BRITAIN, IRELAND, &c.

GENTLEMEN,

WHEN we consider the Utility of ARITHMETIC, on which Science
many others chiefly depend, I presume that an Attempt to render its
Introductory Rules more easy to the Pupil, and at the same Time less burden-
some to the Tutor, will meet with a favourable Reception from both.

The Motive that induced me to attempt this Compilation was, that Youth
in general are too rigidly and hastily instructed in the first principal Rules of
ARITHMETIC, before they have acquired a competent Knowledge of them,
on which all the other succeeding Rules entirely depend.

Hence it is evident that the greatest Care and Attention ought to be observed
by the Teacher, that his Pupil may attain that Knowledge before he proceeds
to the dependant succeeding Rules.

P R E F A C E D E D I C A T O R Y.

In most Books of ARITHMETIC we find the Examples at the beginning of the first Rules generally too difficult for the Learner, which at the first setting out often damps the Spirits, and is chiefly the Cause of a total Dislike and Abhorrence of that useful Study, which, if it had been begun with less Severity, would, after a little Time, have been performed with Ease and Pleasure, instead of being disagreeable to the tender Mind.

The Examples likewise given in those Rules are frequently insufficient in Number to give the Learner a proper Idea of each Rule, so that he is hurried to the next before he is sufficiently made acquainted with the preceding.

This erroneous Method, too often practised, frequently arises from the Multiplicity of Business in Schools: for it is almost impossible for a Master, though he has the greatest Share of Spirits, to write out all the necessary Titles, Rules, Notes, and Examples, in his Pupils' Books, and properly to inspect the various Business of each Day. He must either be laboring after the Fatigue of the School is over to prepare the Books for the next Day, or prepare them during School-Hours, which Time might be more beneficially employed.

Besides, the writing a large Number of common Sums in the first Rules of ARITHMETIC requires much Time, and is in itself so very tedious that few Men of Ability can undergo so much Drudgery. Hence most of the compound Rules of Weights, Measures, &c. with the Tables thereto belonging (and so necessary to be known) are generally omitted, so that the Pupil is perhaps never made acquainted with them.

To such Teachers, and to young Beginners in ARITHMETIC, the Compiler flatters himself these few Sheets will be acceptable; as they are intended to ease the Tutor of that unnecessary Toil, and to facilitate the Progress of the Pupil, by instructing the latter in a more easy and comprehensive Method than any yet published.

This Work is published in Numbers, containing several Hundred Examples regularly set, with ruled Lines, and blank Spaces in the Examples to be filled up at the Discretion of the Teacher, with either great or small Numbers, according to the Capacity of the Learner; and to prevent that Plagiarism in Youth so often complained of, the Figures that are to be put in those blank Spaces, may be varied at Pleasure, so as to diversify the Examples to each Scholar.

The Rules, Tables, &c. are placed in the Order in which they are usually taught in Schools; but as some Masters choose to teach Reduction next after Simple Division, and others after Compound Division; in order to adapt this Compilation, as nearly as possible, to the Method of every Teacher, I have placed the whole of Reduction in the Fifth Number, which may be taught where each Master thinks proper.

In those exceedingly useful and excellent Rules of Compound Multiplication and Division of Money are given a great Number of Examples that often occur in real Business, in most Stations of Life; and after the former are placed several Bills of Parcels, such as every one ought to be well acquainted with, as they so materially concern all Persons. In filling up the Blanks in those Bills, the Tutor may exercise his Pupil in the Method of casting up the Quarter, Half, or Three-Quarters of any Thing, such as Pounds, Yards, Gallons, &c. which so frequently occur in the Course of Trade and Business.

After each of the general Rules are two or three blank Pages for the Use of the Application, &c.

As I have given a greater Number of Examples than is generally necessary, if the Tutor finds them too numerous, in either of the Rules, some may be omitted; as some Pupils are more docile than others and therefore require a less Number of Examples.

By the Assistance of these Numbers for young Beginners the Master will be enabled to go through much more Business, and with greater Ease, than by the laborious Method of writing out all the Titles, Rules, Examples, &c. and the Scholar will have more and easier Examples for his Exercise and Improvement than are to be found in any Book extant.

I shall not presume to advance any Thing more in favour of this Undertaking. It would have given me great Pleasure some Years ago to have seen a Treatise of this Kind published by some Person of greater Abilities; but as no Work of this Sort has appeared sufficiently comprehensive, I hope this Attempt will not be thought less useful for its simple Appearance; and the kind Admonition of every Friend will always be esteemed an Obligation conferred on

G E N T L E M E N,

Your most obedient

Humble Servant,

Robert Saunders.

A D V E R T I S E M E N T.

To prevent the Public from being imposed upon by any spurious Edition of this Work, it is entered at Stationers' Hall, agreeable to Act of Parliament, and every genuine Copy is signed as above in the Author's own Hand-Writing, and sold only at No. 191, in the Strand. 3

T H E
C O N T E N T S.

<i>WHOLE NUMBERS.</i>		<i>COMPOUND NUMBERS.</i>	
	Page		Page
Introduction.....	1	Addition	71
Notation	2	Weights, Measures, &c.....	86
Numeration.....	3	Subtraction.....	115
Addition.....	9	Multiplication.....	129
Subtraction.....	23	Bills of Parcels.....	139
Multiplication.....	31	Division.....	149
Division.....	49	Reduction.....	167

EXPLANATION

OF THE

CHARACTERS used in ARITHMETIC.

SIGNS.

NAMES.

SIGNIFICATIONS.

$+$	Plus, or more.....	$\left\{ \begin{array}{l} \text{The Sign of Addition; as } 4+2=6, \text{ * i. e.} \\ 4 \text{ added to } 2 \text{ is equal to } 6. \end{array} \right.$
$-$	Minus, or less.....	$\left\{ \begin{array}{l} \text{The Sign of Subtraction; as } 4-2=2, \\ \text{i. e. } 4 \text{ less by } 2, \text{ or } 2 \text{ subtracted from } \\ 4 \text{ is equal to } 2. \end{array} \right.$
\times	Into, or with	$\left\{ \begin{array}{l} \text{The Sign of Multiplication; as } 4 \times 3=12, \\ \text{i. e. } 4 \text{ multiplied by } 3 \text{ is equal to } 12. \end{array} \right.$
\div	By	$\left\{ \begin{array}{l} \text{The Sign of Division; as } 12 \div 3=4, \text{ or} \\ \frac{12}{3}, \text{ or } 3)12(4, \text{ denote Division also,} \\ \text{i. e. } 12 \text{ divided by } 3 \text{ is equal to } 4. \end{array} \right.$
$=$	Equal.....	$\left\{ \begin{array}{l} \text{The Sign of Equality, or Equation; as} \\ 2+2=4, \text{ i. e. } 2 \text{ added to } 2 \text{ is equal} \\ \text{to } 4. \end{array} \right.$
$:$	Is to	$\left\{ \begin{array}{l} \text{The Signs of Proportionals in the Rule} \\ \text{of Three; as } 2:4::3:6, \text{ i. e. as } 2 \text{ is} \\ \text{to } 4, \text{ so is } 3 \text{ to } 6. \end{array} \right.$
\therefore	So is	
$\sqrt{}$	Extraction of the Roots.	$\left\{ \begin{array}{l} \text{The Sign of the Square Root; as } \sqrt{9}, \\ \text{i. e. the Square Root of } 9 \text{ is required.} \end{array} \right.$
$\sqrt[3]{}$	$\left\{ \begin{array}{l} \text{The Sign of the Cube Root; as } \sqrt[3]{27}, \\ \text{i. e. the Cube Root of } 27 \text{ is required.} \end{array} \right.$
$\sqrt[4]{}$	$\left\{ \begin{array}{l} \text{The Sign of the Biquadrate Root; as } \sqrt[4]{81}, \\ \text{i. e. the Biquadrate Root of } 81 \text{ is} \\ \text{required.} \end{array} \right.$

* Note. The Letters *i*, *e.* signify, That is.

T H E
**TUTOR's and PUPIL's
ASSISTANT,**

Being an easy and useful Introduction to Arithmetic.

ARITHMETIC in WHOLE NUMBERS.

INTRODUCTION.

ARITHMETIC is the Art or Science of computing by Numbers, and teaches how to find the Quantity, Value, or Proportion of Things.

The principal Rules for the Operation are Five, viz. NOTATION, or NUMERATION, ADDITION, SUBTRACTION, MULTIPLICATION, and DIVISION, and those Rules are performed by the Ten following Characters or Figures, viz. 1, 2, 3, 4, 5, 6, 7, 8, 9; 0 is called Nought or Cypher, and all the others are called Figures or Digits.

The Use of all Arithmetical Operations is, by some Quantities that are given, to find others that are required.

NOTATION

TEACHES to read or write Numbers by their true Value, either in Arabic Figures, or Roman Numerical Letters.

ARABIC FIGURES.

One 1, Two 2, Three 3, Four 4, Five 5, Six 6, Seven 7, Eight 8, Nine 9; and Nought or Cypher 0.

ROMAN NUMERICAL LETTERS.

I One.	XIV Fourteen.	XC Ninety.
II Two.	XV Fifteen.	C One Hundred.
III Three.	XVI Sixteen.	CC Two Hundred.
IV Four.	XVII Seventeen.	CCC Three Hundred.
V Five.	XVIII Eighteen.	CCCC Four Hundred.
VI Six.	XIX Nineteen.	D Five Hundred.
VII Seven.	XX Twenty.	DC Six Hundred.
VIII Eight.	XXX Thirty.	DCC Seven Hundred.
IX Nine.	XL Forty.	DCCC Eight Hundred.
X Ten.	L Fifty.	DCCCC Nine Hundred.
XI Eleven.	LX Sixty.	M One Thousand.
XII Twelve.	LXX Seventy.	Ṅ Five Thousand.
XIII Thirteen.	LXXX Eighty.	ṄC One Hundred Thousand.

NOTE. A Line drawn over any Number less than a Thousand, signifies so many Thousand, as LX, is Sixty Thousand, CC, is Two Hundred Thousand, M, is One Million, &c.

NUMERATION

TEACHES to read, write, or express any Sum, or Number of Figures.

The First Place towards the Right-Hand of any whole Number of Figures is always called Units; the Second, Tens; the Third, Hundreds; the Fourth, Thousands; the Fifth, Tens of Thousands; the Sixth, Hundreds of Thousands; the Seventh, Millions; the Eighth, Tens of Millions; the Ninth, Hundreds of Millions, &c.

To ease the young Beginner, the Figures in the following Tables are separated into Periods by Commas: the Figure on the Right-Hand of every Comma must always be called Hundred, or Hundreds.

N. B. The Letters **X^s** stands for Tens, and **C^s** for Hundreds.

T	A	B	L	E	S.
9		Units.....		1	
9 0		Tens.....		1 2	
,9 0 0		Hundreds.....		,1 2 3	
9,0 0 0		Thousands.....		1,2 3 4	
9 0,0 0 0		X ^s of Thousands		1 2,3 4 5	
,9 0 0,0 0 0		C ^s of Thousands		,1 2 3,4 5 6	
9,0 0 0,0 0 0		Millions.....		1,2 3 4,5 6 7	
9 0,0 0 0,0 0 0		X ^s of Millions.....		1 2,3 4 5,6 7 8	
,9 0 0,0 0 0,0 0 0		C ^s of Millions.....		,1 2 3,4 5 6,7 8 9	

NOTE. Nine Figures (such as Hundreds of Millions) are sufficient to express most ordinary Concerns, but for Recreation see a more extensive Table in Page 8.

RULE. Write down on your Slate Cyphers to so many Places as are named in the given Number; then begin with the Left-Hand Cypher, and observe at each Place what significant Figure is named, take away the Cypher, and write the significant Figure in its Place: proceed in the same Manner with every Cypher where a significant Figure or Digit is required.

E X A M P L E S.

Write down in proper Figures the following given Numbers,

V I Z.

Eight.....	8.	Eighteen.....	.
Nine.....	.	Nineteen.....	.
Ten.....	.	Twenty-Six.....	26.
Eleven.....	.	Thirty.....	.
Twelve.....	.	Forty.....	.
Thirteen.....	.	Fifty.....	.
Fourteen.....	.	Sixty.....	.
Fifteen.....	.	Seventy.....	.
Sixteen.....	.	Eighty.....	.
Seventeen.....	.	Ninety.....	.

One

One Hundred and Twenty-Seven.....127

Three Hundred and 3

Five Thousand, Hundred and 5

Forty Thousand, Hundred and 4

Two Hundred Thousand, Hundred 2

Three Millions, Hundred Thousand, 3

Fifty Millions, Hundred Thousand, 5

Nine Hundred Millions, Hundred 9

Eight Thousand, Hundred Millions, 8

F

Write

Write down in Words at Length the following given Numbers,

v i z.

9 8 Nine

9 8 0 Nine

9 8 7 Ninety

9 8 7 0 Nine

9 8 7 6 Nine

9 8 7 6 0 Ninety

9 8 7 6 5 Nine

A P P L I C A T I O N.

Express in Words at Length the present Year of
our Lord.

NUMERATION TABLE.

IN order to read or express any Sum or large Number of Figures, separate them into Periods by Commas, as in the following Table, and observe always to call the next Figure on the Right-Hand of each Comma Hundred, or Hundreds.

Quintillions.....	6,171,107	6,171,107,215,476,982,435,161,108,796,589.
Quadrillions.....	6,171,107,215,476,982,435,161,108,796,589.	6,171,107,215,476,982,435,161,108,796,589.
Trillions.....	6,171,107,215,476,982,435,161,108,796,589.	6,171,107,215,476,982,435,161,108,796,589.
Billions.....	6,171,107,215,476,982,435,161,108,796,589.	6,171,107,215,476,982,435,161,108,796,589.
Millions.....	6,171,107,215,476,982,435,161,108,796,589.	6,171,107,215,476,982,435,161,108,796,589.
Units.....	6,171,107,215,476,982,435,161,108,796,589.	6,171,107,215,476,982,435,161,108,796,589.

NOTE. The next Sixth Figure from Quintillions is called Sextillions ; the next Sixth, Septillions ; the next Sixth, Octillions ; the next Sixth, Nonillions ; the next Sixth, Decillions, &c.

N. B. The above Table is placed here more for Recreation than real Use, as the Tables at the Beginning of this Rule, consisting of Nine Figures, are sufficient to express most ordinary Concerns.

(9)

A D D I T I O N

TEACHES to add or collect several separate Numbers together into one Sum, which is called the Total, because it is equal to all the other given Parts, put, or added together.

SIMPLE, or SINGLE ADDITION, is the adding together of several Numbers, whose Signification is the same; as 7 Yards added to 9 Yards, are 16 Yards.

RULE. Place all the Numbers of the same Name under one another, that is, put Units under Units, Tens under Tens, Hundreds under Hundreds, &c.

Then begin to add, or reckon up, the Units' Row to the Top; when you have so done, set down the Units under that Row, and carry one for each Ten to the next Row: Proceed in the same Manner with every Row, till you come to the last, under which put down the whole Sum, and the Figures between the Lines will express the total Sum required.

PROOF. Draw a Line under the top Number, then add together all the other Numbers into one Sum, to which add the top Number, and if that total Sum come equal to the first total Sum, the Work is right.

NOTE. The Teacher may, if he thinks proper, have all the Examples in Addition proved on the Slate, though no Lines are drawn at the Beginning for that Purpose.

N. B. It is very necessary for the Learner to get by Heart all the following Tables, and frequently to repeat them.

(15)

ADDITION and SUBTRACTION TABLE.

	2	3	4	5	6	7	8	9
2	4	5	6	7	8	9	10	11
3	5	6	7	8	9	10	11	12
4	6	7	8	9	10	11	12	13
5	7	8	9	10	11	12	13	14
6	8	9	10	11	12	13	14	15
7	9	10	11	12	13	14	15	16
8	10	11	12	13	14	15	16	17
9	11	12	13	14	15	16	17	18

To learn this Table by Heart for Addition—Begin with the Figure 2 on the Left-Hand Column of the Table, which add to the Figure 2 on the Top, and say Two and Two are Four, under which stands 4 the Sum; the same 2 on the Left-Hand Column added to 3 on the Top are 5; the same 2 added to 4 on the Top are 6, &c. Proceed in the same Manner with every Line, from the Left to the Right-Hand Column, through all the Table.

THE USE OF THE ABOVE TABLE IN ADDITION.

Suppose you wanted the Sum of 5 and 9, look for the lesser Number 5 in the Left-Hand Column of the Table, and the greater Number 9, on the Top, under which, and in the same Line with 5, stands 14, the Sum sought.

Or, look for the lesser Number 5 on the Top of the Table, and the greater Number 9, in the Left-Hand Column, in the same Line with 9, and under 5 stands 14, the Sum as before.

	E	X	A	M	P	L	E	S.
Apples.	Nuts.	Pears.	Plums.	Cherries.	Peaches.			
3	3	5	6	7	8			
1	2	3	2	3	5			
3								
2	2	1	3	2	3			
1	1	2	2	3	4			
<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>			
Sum 10								
<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>			

Pounds.	Shillings.	Pence.	Farthings.
1 0	1 2	1 4	1 5
1 3	1 4	1 6	1 4
1 2	1 2	1 3	1 2
1 4	1 3	1 5	1 6
1 1	1 5	1 4	1 5
<hr/>	<hr/>	<hr/>	<hr/>
Sum			
<hr/>	<hr/>	<hr/>	<hr/>

Pounds.	Ounces.	D. Weights.	Grains.
1 6	2 2	2 5	3 6
1 7	1 9	3 2	4 5
1 5	2 5	2 4	5 2
1 9	3 2	3 6	3 7
1 4	1 8	4 2	4 6
<hr/>	<hr/>	<hr/>	<hr/>
Total			
<hr/>	<hr/>	<hr/>	<hr/>

Tons.	Hundreds.	Quarters.	Pounds.
4 2	5 7	6 4	7 6
5 6	3 5	3 6	5 4
2 4	2 6	5 7	4 8
6 5	4 7	7 3	3 7
5 3	6 4	2 9	6 9
—	—	—	—
—	—	—	—

Quarters.	Pounds.	Ounces.	Drams.
8 7	7 8	8 6	9 7
6 2	6 5	7 5	5 6
5 9	5 7	3 8	7 2
4 3	6 4	8 9	4 9
8 7	7 9	6 8	8 7
—	—	—	—
—	—	—	—

Sacks.	Weys.	Tods.	Stones.
1 3 2	1 5 3	1 6 3	1 7 8
1 4 3	1 7 8	2 1 5	3 2 5
1 2 4	1 2 1	1 3 9	1 8 3
1 5 7	1 8 5	1 5 7	2 5 7
1 4 6	1 2 6	2 4 3	4 3 5
—	—	—	—
—	—	—	—

Cloves.	Pounds.	Ounces.	Drams.
2 5 3	4 7 6	5 7 6	6 8 5
3 4 7	2 3 4	7 4 2	4 7 2
1 5 9	5 6 8	3 9 7	7 6 4
4 8 3	6 7 3	6 5 3	5 4 9
6 3 7	2 3 6	4 7 9	8 6 5
—	—	—	—
—	—	—	—

Pounds.	Ounces.	Drams.
1 3 2 5	2 5 9 6	3 8 6 2
2 4 3 2	5 6 4 5	6 2 3 5
3 6 5 7	3 2 3 8	3 9 5 4
5 7 6 4	6 8 5 6	5 6 3 8
3 4 5 9	4 7 3 2	6 3 7 5

Drams.	Scruples.	Grains.
5 4 6 9	6 8 5 9	8 0 7 6
3 9 8 2	5 4 9 6	4 9 6 5
7 6 3 6	3 8 5 4	7 5 4 6
8 5 7 8	6 7 8 9	5 8 6 9
6 9 6 5	8 6 5 3	9 6 0 4

Ells.

Yards.

Quarters.

Nails.

2 3 2 0	3 7 1 5	4 7 6 5	5 7 6 5
3 5 4 2	6 2 7 6	6 5 3 2	7 6 4 3

5 7 6 5	5 7 4 2	7 3 6 8	5 3 2 9
1 3 2 6	4 3 8 5	6 4 7 3	8 7 6 5

4 7 5 4	7 5 3 9	8 3 2 8	6 5 5 7
6 0 7 6	3 7 5 6	5 9 8 5	7 0 9 4
5 9 5 8	8 6 3 8	6 5 7 4	8 7 6 8

Proof

Leagues.	Miles.	Furlongs.	Polles,
2 6 5 4 3	3 7 5 3 6	6 7 5 4 2	7 9 6 5 7
1 3 4 7 2	5 4 2 1 3	5 6 3 8 9	6 5 9 6 3
3 5 7 3 6	2 6 7 6 5	7 0 8 5 3	3 7 8 3 6
2 4 2 5 3	5 4 3 2 6	2 3 5 7 8	5 6 6 5 4
5 7 6 7 8	1 7 8 7 2	6 4 9 6 5	2 9 7 8 5
3 6 5 4 2	6 8 9 5 7	5 8 3 4 6	6 3 4 2 9
2 5 7 6 3	3 4 2 0 3	2 6 5 7 8	5 7 8 7 5
4 8 6 5 8	6 8 7 9 6	4 7 8 9 6	8 9 6 9 8

Yards.	Feet.	Inches.	Barley-Corns.
3 6 5 7 3	5 6 3 5 9	6 8 9 6 5	7 9 8 5 9
5 4 6 5 8	4 8 6 7 3	4 5 6 7 8	6 5 6 4 7
2 5 4 3 5	6 2 4 6 5	3 7 4 2 3	8 6 7 9 4
4 9 8 6 2	8 7 9 8 6	8 4 5 7 6	9 8 5 7 6
3 6 5 7 8	2 4 3 5 4	3 2 6 4 3	6 5 7 8 9
6 3 9 6 7	6 5 7 8 3	9 8 9 9 8	8 7 6 5 4
8 9 5 4 3	5 9 8 7 6	6 3 6 2 3	9 8 6 9 8
1 3 2 5 4	4 5 3 2 1	5 4 2 9 6	6 9 8 7 6
6 8 7 6 5	9 8 8 7 6	8 9 6 7 8	9 9 7 8 9

Acres.	Roods.	Poles.
7 6 9 5 9	9 7	9 6 7 8 9
8 6 9 6	9 8 5	7 6 8 5
9 7 8	9 5 7 6	8 7 6
9 6	9 6 8 6 9	9 8
9 8 7 6 5	8 6	9 8 6 5 9
9 6 7 8	8 5 7	8 7 6 7
7 6 9	9 7 6 9	9 8 6
8 6	7 8 9 7 5	9 7
8 7 9 6 9	9 7	9 8 7 6 5
9 6 7 8	8 7 6	7 9 5 8
9 8 6	9 6 5 9	9 6 7
9 8	9 7 5 6 5	9 6
9	6 5 7 5 6	9

Yards.	Feet.	Inches.
9 6 7 8 9	9	9 8 7 6 9
7 9 6 7 8	9 8	8 9 6 7 8
5 9 6 7	9 8 7	7 9 6 5
9 7 6 5	9 7 5 6	8 7 6
5 9 8	9 8 7 6	9 8
7 9	9 6 5 8 9	8 7
9 8 7 6 7	8 7 9 5 7	9
7 6	9 6 7 9 8	9 7 6 5 7
6 5 7	8 6 6 5	5 9 8 7 6
9 8 7 6	5 9 8 7	7 6 9
7 6 5 9	7 6 5	8 7 5
8 6 5 8 7	9 8	9 6
9 8 7 6 8	9	9

Gallons.	Pottles.	Pints.
7 8 6 5 9	8 9 7 6 5	9 8 9 7 8
9 7 5 6 4	6 8 9 7 8	6 7 5 9 6
6 9 7 5 8	9 6 5 4 7	7 8 9 7 5
8 6 5 9 6	6 8 7 8 9	8 9 6 9 6

8 7 5 6 5 7	8 9 7 5 6	9 8 7 6 9
6 8 9 7 6	5 8 6 7 9	7 9 8 7 8
8 9 6 8 7	9 7 8 9 5	5 7 9 6 9
9 6 7 5 9	6 5 4 6 7	8 6 5 7 6

8 7 6 5 4	8 9 7 5 9	9 8 7 5 9
7 5 7 6 8	7 5 6 7 4	6 5 8 9 7
6 7 8 9 6	9 7 8 6 6	8 9 7 6 5
5 6 9 7 5	8 9 6 7 9	7 6 8 9 7
9 8 7 6 9	9 6 7 5 8	9 8 9 8 6

A P P L I C A T I O N.

Suppose you were born in the Year of our Lord
17 , in what Year will you be Twenty
Years of Age?

S U B T R A C T I O N

TEACHES to take a less Number from a greater, and shews the Difference or Remainder.

SIMPLE, or SINGLE SUBTRACTION, is finding the Difference between any two Numbers, whose Signification is the same; as the Difference between 9 Yards and 16 Yards are 7 Yards.

RULE. Place the Numbers after the same Manner as in Addition, that is, put Units under Units, Tens under Tens, Hundreds under Hundreds, &c. Then begin with the Units, subtract, or take the Figure in the lower Line from that which stands over it in the upper Line, and put down the Difference or Remainder under the Units Figure, proceed in the same Manner with the Tens, Hundreds, &c. and all the Remainders together will be the Difference required.

But if any Figure in the lower Line be greater than that which stands over it, then subtract the greater Figure from Ten, and to the Remainder add the lesser Figure, put down the Difference, or Remainder, and carry One for the Ten you borrowed to the next Figure on the Left-Hand.

PROOF. Add the Remainder to the lesser Line, and if that Sum come equal to the greater Line, the Work is right:—Or, subtract the Remainder from the greater Line, and the Difference will be equal to the lesser Line.

NOTE. Before the Learner proceeds to the following Examples, it will be necessary for him to turn back to Page 10, and get by Heart that Table for Subtraction. Begin with the Figure 2 on the Left-Hand Column of the Table, and say 2 from 4 in the same Line, and 2 remain, as on the Top; the same 2 from 5 and 3 remain, as on the Top; the same 2 from 6 and 4 remain, as on the Top, &c. Proceed in the same Manner with every Line, from the Left to the Right-Hand Column, through all the Table.

The Use of the Table in Subtraction:

Suppose you wanted the Difference between 5 and 14, look for the lesser Number 5 in the Left-Hand Column of the Table, and the greater Number 14 in the same Line, above which on the Top stands 9, the Difference sought: —Or, look for the lesser Number 5 on the Top of the Table, and the greater Number 14 under it in the same Column, opposite which in the Left-Hand Column stands 9, the Difference as before.

E X A M P L E S.

	Apples.	Nuts.	Pears.	Plums.	Grapes.	Cherries.
From	1 0	1 5	1 9	2 6	3 2	4 0

Take	9	—	—	—	—	—
------	---	---	---	---	---	---

Remain	1	—	—	—	—	—
--------	---	---	---	---	---	---

Proof	1 0	—	—	—	—	—
-------	-----	---	---	---	---	---

	Sloes.	Figs.	Melons.	Oranges.	Lemons.	Almonds.
From	5 3	6 4	7 5	8 6	9 0	1 0 7

Take	—	—	—	—	—	—
------	---	---	---	---	---	---

Remain	—	—	—	—	—	—
--------	---	---	---	---	---	---

Proof	—	—	—	—	—	—
-------	---	---	---	---	---	---

	Guineas.	Pounds.	Crowns.	Shillings.
From	2 5 0	5 4 2	0 7 0 0	9 0 0

Subtract _____

Difference _____

Proof _____

	Moidores.	Marks.	Angels.	Nobles.
From	6 0 5 0	7 2 1 3	8 6 7 5	9 0 0 8

Subtract _____

Difference _____

Proof _____

	Marbles.	Buttons.	Pens.	Quills.
From	1 2 0 1 4	1 7 1 0 9	1 5 0 0 0	1 8 0 9 0

Subtract _____

Difference _____

Proof _____

	Pounds.	Ounces.	D. Weights.
Bought	4 0 7 1 0	5 5 4 2 3	6 7 1 0 9

Sold	_____	_____	_____
------	-------	-------	-------

Unfold	_____	_____	_____
--------	-------	-------	-------

Proof	_____	_____	_____
-------	-------	-------	-------

	Grains.	Pounds.	Ounces.
Bought	6 0 7 3 1	7 9 6 3 8	8 0 0 9 5

Sold	_____	_____	_____
------	-------	-------	-------

Unfold	_____	_____	_____
--------	-------	-------	-------

Proof	_____	_____	_____
-------	-------	-------	-------

	Drams.	Scruples.	Grains.
Bought	7 0 0 1 0	8 2 3 4 4	9 0 0 0 0

Sold	_____	_____	_____
------	-------	-------	-------

Unfold	_____	_____	_____
--------	-------	-------	-------

Proof	_____	_____	_____
-------	-------	-------	-------

	Yards.	Quarters.	Nails.
From	1 0 2 1 7 4	2 9 5 3 7 1	3 6 2 1 5 7

Take	_____	_____	_____
------	-------	-------	-------

Remain	_____	_____	_____
--------	-------	-------	-------

Proof	_____	_____	_____
-------	-------	-------	-------

	Furlongs.	Poles.	Yards.
From	4 8 3 5 0 0	5 0 0 3 7 2	6 1 0 0 0 5

Take	_____	_____	_____
------	-------	-------	-------

Remain	_____	_____	_____
--------	-------	-------	-------

Proof	_____	_____	_____
-------	-------	-------	-------

	Feet.	Inches.	Barley-Corns.
From	7 8 5 6 1 1	8 3 3 2 1 7	9 0 0 9 0 0

Take	_____	_____	_____
------	-------	-------	-------

Remain	_____	_____	_____
--------	-------	-------	-------

Proof	_____	_____	_____
-------	-------	-------	-------

	Pounds.	Shillings.
Borrowed	1 0 2 5 0 1 0 1	3 0 9 0 9 0 3 0

Paid	_____	_____
------	-------	-------

Unpaid	_____	_____
--------	-------	-------

Proof	_____	_____
-------	-------	-------

	Pence.	Farthings.
Lent	5 0 0 0 7 0 0 0	0 7 0 0 8 6 0 1 0

Received	_____	_____
----------	-------	-------

Due	_____	_____
-----	-------	-------

Proof	_____	_____
-------	-------	-------

	Half-Crowns.	Half-Pence.
Borrowed	8 0 0 0 1 0 0 0	9 8 7 6 5 4 3 2



Paid	_____	_____
------	-------	-------

To pay	_____	_____
--------	-------	-------

Proof	_____	_____
-------	-------	-------

29
A P P L I C A T I O N.

И О Т А 3 1 1 9 9 4